

## **APPENDIX**

## **CLAIM AMENDMENTS**

A ready-to-use composition for dyeing keratin fibers,

comprising:

- (i) at least one cationic direct dye chosen from compounds of formulae (I), (II), (III) and (III') below, and
  - (ii) at least one thickening polymer;
- (a) wherein said compounds of formula (I) are chosen from compounds of formula:

$$A - D = D - \begin{pmatrix} R'_3 \\ R_1 \end{pmatrix} - \begin{pmatrix} R_1 \\ R_2 \end{pmatrix}$$
 (I)

in which:

D is chosen from a nitrogen atom and a -CH group,

 $R_1$  and  $R_2$ , which may be identical or different, are chosen from a hydrogen atom; a 4'-aminophenyl radical; and  $C_1$ - $C_4$  alkyl radicals which can optionally be substituted with a radical chosen from -CN, -OH and -NH $_2$  radicals; or

 $R_1$  and  $R_2$  may form, with each other or with a carbon atom of the benzene ring of formula (I), a heterocycle optionally containing a heteroatom chosen from oxygen and nitrogen, which can be substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl radicals;

 $R_3$  and  $R'_3$ , which may be identical or different, are chosen from a hydrogen atom, halogen atoms, a cyano radical,  $C_1$ - $C_4$  alkyl radicals,  $C_1$ - $C_4$  alkoxy radicals and acetyloxy radicals,

X is chosen from anions,

A is chosen from structures  $A_1$  to  $A_{19}$  below:

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and

in which:

 $R_4$  is chosen from  $C_1\text{-}C_4$  alkyl radicals which can be substituted with a hydroxyl radical, and

 $R_{5}$  is chosen from  $C_{1}\hbox{-} C_{4}$  alkoxy radicals, and

wherein when D represents -CH, when A represents  $A_4$  or  $A_{13}$  and when  $R_3$  is not an alkoxy radical,  $R_1$  and  $R_2$  are not both a hydrogen atom;

**(b)** wherein said compounds of formula (II) are chosen from compounds of formula:

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$$B-N=N- \begin{array}{c} R_{8} \\ \hline \\ X \end{array} \begin{array}{c} R_{7} \\ \hline \\ R_{7} \end{array}$$
 (II)

in which:

R<sub>6</sub> is chosen from a hydrogen atom and C<sub>1</sub>-C<sub>4</sub> alkyl radicals,

 $R_7$  is chosen from a hydrogen atom, alkyl radicals which can be substituted with a species chosen from a -CN radical and an amino group, and a 4'-aminophenyl radical, or forms, with  $R_6$ , a heterocycle optionally comprising at least one heteroatom chosen from oxygen and nitrogen, which can be substituted with  $C_1$ - $C_4$  alkyl radicals,

 $R_8$  and  $R_9$ , which may be identical or different, are chosen from a hydrogen atom, halogen atoms,  $C_1$ - $C_4$  alkyl radicals,  $C_1$ - $C_4$  alkoxy radicals and a -CN radical,

X is chosen from anions,

B is chosen from structures B<sub>1</sub> to B<sub>6</sub> below:

$$R_{10}$$
 $R_{10}$ 
 $R$ 

in which:

R<sub>10</sub> is chosen from C<sub>1</sub>-C<sub>4</sub> alkyl radicals, and

 $R_{11}$  and  $R_{12}$ , which may be identical or different, are chosen from a hydrogen atom and  $C_1\text{-}C_4$  alkyl radicals;

(c) wherein said compounds of formulae (III) and (III') are chosen from compounds of formulae:

$$E-D_{1} = D_{2} - (N)_{m} - R_{13}$$

$$X \cdot R_{15} - R_{15}$$

$$(III)$$

$$E-D_{1} = D_{2}$$

$$X \cdot R_{17} - R_{16}$$

$$(III')$$

in which:

 $R_{13}$  is chosen from a hydrogen atom,  $C_1$ - $C_4$  alkoxy radicals, halogen atoms and an amino radical,

 $R_{14}$  is chosen from a hydrogen atom,  $C_1$ - $C_4$  alkyl radicals or forms, with a carbon atom of the benzene ring, a heterocycle optionally containing an oxygen heteroatom and/or substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl radicals,

R<sub>15</sub> is chosen from a hydrogen atom and halogen atoms,

 $R_{16}$  and  $R_{17}$ , which may be identical or different, are chosen from a hydrogen atom and  $C_1$ - $C_4$  alkyl radicals,

 $\mathsf{D}_1$  and  $\mathsf{D}_2$ , which may be identical or different, are chosen from a nitrogen atom and a -CH group,

m is 0 or 1,

wherein when  $R_{13}$  is an unsubstituted amino group,  $D_1$  and  $D_2$  are both a -CH group and m is 0,

X is chosen from anions,

E is chosen from structures E<sub>1</sub> to E<sub>8</sub> below:

**E**1

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and

in which R' is chosen from  $C_1\text{-}C_4$  alkyl radicals;

wherein when m is 0 and when  $D_1$  represents a nitrogen atom, E can be further chosen from structure E9 below:

in which R' is chosen from C<sub>1</sub>-C<sub>4</sub> alkyl radicals;

and

(d) wherein said at least one thickening polymer is chosen from polymers comprising at least one sugar unit.

with the provisos that

- (1) when said at least one cationic direct dye is chosen from compounds of formula (I) wherein:
  - both D's are simultaneously nitrogen atoms,
  - R<sub>3</sub> and R'<sub>3</sub> are simultaneously hydrogen atoms,
  - R<sub>1</sub> and R<sub>2</sub> are simultaneously unsubstituted methyl radicals, and
  - A is A<sub>6</sub> wherein R<sub>4</sub> is an unsubstituted methyl radical, or
- (2) when said at least one cationic direct dye is chosen from compounds of formula (III) wherein:
  - D<sub>1</sub> and D<sub>2</sub> are simultaneously nitrogen atoms,
  - m is zero,
  - R<sub>15</sub> is a hydrogen atom,
  - R<sub>13</sub> is a dimethylamino radical, and

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1300 I STREET, N. W.
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- E is E<sub>8</sub> wherein R' is an unsubstituted methyl group,

then the at least one thickening polymer is not chosen from at least one nonionic guar gum; and

with the further provisos that

- (1) when said at least one cationic direct dye is chosen from compounds of formula (I) wherein:
  - both D's are simultaneously nitrogen atoms, and
  - A is chosen from A4 and A13, or
- (2) when said at least one cationic direct dye is chosen from compounds of formula (III) wherein:
  - D<sub>1</sub> and D<sub>2</sub> are simultaneously nitrogen atoms,
  - m is zero, and
  - E is chosen from E<sub>1</sub>, E<sub>2</sub>, and E<sub>7</sub>,

then said at least one thickening polymer is not chosen from hydroxyalkylcelluloses and carboxyalkylcelluloses.

42. (Twice Amended) The composition according to claim 1, wherein said at least one cationic direct dye and said at least one thickening polymer are present in said composition in an amount sufficient for lightening [direct] dyeing with said at least one direct dye.

45. (Twice Amended) A process for dyeing keratin fibers, comprising applying at least one dye composition to said keratin fibers and developing for a period of time sufficient to achieve a desired coloration, wherein said at least one dye composition comprises:

- (i) at least one cationic direct dye chosen from compounds of formulae (I), (II), (III) and (III') below, and
  - (ii) at least one thickening polymer;
- (a) wherein said compounds of formula (I) are chosen from compounds of formula:

$$A - D = D - \begin{pmatrix} R'_3 \\ N \end{pmatrix} = \begin{pmatrix} R_1 \\ R_2 \end{pmatrix}$$

in which:

D is chosen from a nitrogen atom and a -CH group,

 $R_1$  and  $R_2$ , which may be identical or different, are chosen from a hydrogen atom; a 4'-aminophenyl radical; and  $C_1$ - $C_4$  alkyl radicals which can optionally be substituted with a radical chosen from -CN, -OH and -NH $_2$  radicals; or

R<sub>1</sub> and R<sub>2</sub> form, with each other or with a carbon atom of the benzene ring of formula (I), a heterocycle optionally containing a heteroatom chosen from oxygen and nitrogen, which can be substituted with at least one radical chosen from C<sub>1</sub>-C<sub>4</sub> alkyl radicals;

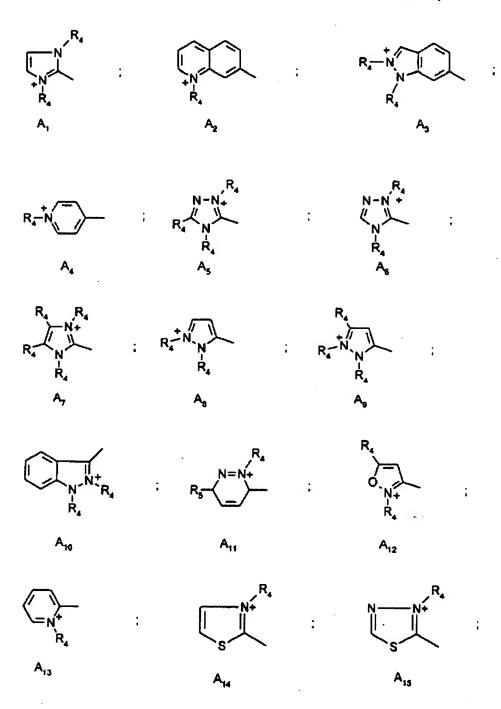
R<sub>3</sub> and R'<sub>3</sub>, which may be identical or different, are chosen from a hydrogen atom,

halogen atoms, a cyano radical,  $C_1$ - $C_4$  alkyl radicals,  $C_1$ - $C_4$  alkoxy radicals and acetyloxy radicals,

X is chosen from anions,

A is chosen from structures  $A_1$  to  $A_{19}$  below:

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and

in which:

 $R_4$  is chosen from  $C_1\text{-}C_4$  alkyl radicals which can be substituted with a hydroxyl radical, and

 $R_5$  is chosen from  $C_1\text{-}C_4$  alkoxy radicals, and

wherein when D represents -CH, when A represents  $A_4$  or  $A_{13}$  and when  $R_3$  is not an alkoxy radical,  $R_1$  and  $R_2$  are not both a hydrogen atom;

**(b)** wherein said compounds of formula (II) are chosen from compounds of formula:

$$B-N=N- \begin{array}{c} R_{8} \\ \hline \\ X \\ \end{array}$$

$$R_{9}$$

$$(II)$$

in which:

R<sub>6</sub> is chosen from a hydrogen atom and C<sub>1</sub>-C<sub>4</sub> alkyl radicals,

 $R_7$  is chosen from a hydrogen atom, alkyl radicals which can be substituted with a species chosen from a -CN radical and an amino group, and a 4'-aminophenyl radical, or forms, with  $R_6$ , a heterocycle optionally comprising at least one heteroatom chosen from oxygen and nitrogen, which can be substituted with  $C_1$ - $C_4$  alkyl radicals,

 $R_8$  and  $R_9$ , which may be identical or different, are chosen from a hydrogen atom, halogen atoms,  $C_1$ - $C_4$  alkyl radicals,  $C_1$ - $C_4$  alkoxy radicals and a -CN radical,

X is chosen from anions,

B is chosen from structures B<sub>1</sub> to B<sub>6</sub> below:

$$R_{10}$$
 $R_{10}$ 
 $R$ 

in which:

R<sub>10</sub> is chosen from C<sub>1</sub>-C<sub>4</sub> alkyl radicals, and

 $R_{11}$  and  $R_{12}$ , which may be identical or different, are chosen from a hydrogen atom and  $C_1$ - $C_4$  alkyl radicals;

**(c)** wherein said compounds of formulae (III) and (III') are chosen from compounds of formulae:

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$$E-D_{1}=D_{2}-(N)_{m}$$

$$X \cdot R_{15}$$

$$R_{15}$$

$$R_{16}$$

$$R_{16}$$

$$R_{16}$$

$$R_{17}$$

$$R_{16}$$

$$R_{17}$$

in which:

 $R_{13}$  is chosen from a hydrogen atom,  $C_1$ - $C_4$  alkoxy radicals, halogen atoms and an amino radical,

 $R_{14}$  is chosen from a hydrogen atom,  $C_1$ - $C_4$  alkyl radicals or forms, with a carbon atom of the benzene ring, a heterocycle optionally containing an oxygen heteroatom and/or substituted with at least one to radical chosen from  $C_1$ - $C_4$  alkyl radicals,

 $R_{15}$  is chosen from a hydrogen atom and halogen atoms,

 $R_{16}$  and  $R_{17}$ , which may be identical or different, are chosen from a hydrogen atom and  $C_1$ - $C_4$  alkyl radicals,

 $\mathsf{D}_1$  and  $\mathsf{D}_2$ , which may be identical or different, are chosen from a nitrogen atom and a -CH group,

m is 0 or 1,

wherein when  $R_{13}$  is an unsubstituted amino group,  $D_1$  and  $D_2$  are both a -CH group and m is 0,

X is chosen from anions,

E is chosen from structures  $E_1$  to  $E_8$  below:

and

in which R' is chosen from  $C_1\text{-}C_4$  alkyl radicals;

wherein when m is 0 and when D<sub>1</sub> represents a nitrogen atom, E can be further chosen from structure E9 below:

in which R' is chosen from C<sub>1</sub>-C<sub>4</sub> alkyl radicals;

and

(d) wherein said at least one thickening polymer is chosen from polymers comprising at least one sugar unit.

with the provisos that

- (1) when said at least one cationic direct dye is chosen from compounds of formula (I) wherein:
  - both D's are simultaneously nitrogen atoms,
  - R<sub>3</sub> and R'<sub>3</sub> are simultaneously hydrogen atoms,
  - R<sub>1</sub> and R<sub>2</sub> are simultaneously unsubstituted methyl radicals, and
  - A is A<sub>6</sub> wherein R<sub>4</sub> is an unsubstituted methyl radical, or
- (2) when said at least one cationic direct dye is chosen from compounds of formula (III) wherein:
  - $D_1$  and  $D_2$  are simultaneously nitrogen atoms,

- m is zero,
- R<sub>15</sub> is a hydrogen atom,
- R<sub>13</sub> is a dimethylamino radical, and
- E is E<sub>8</sub> wherein R' is an unsubstituted methyl group,

then the at least one thickening polymer is not chosen from at least one nonionic guar gum; and

with the further provisos that

- (1) when said at least one cationic direct dye is chosen from compounds of formula (I) wherein:
  - both D's are simultaneously nitrogen atoms, and
  - A is chosen from A<sub>4</sub> and A<sub>13</sub>, or
- (2) when said at least one cationic direct dye is chosen from compounds of formula (III) wherein:
  - D<sub>1</sub> and D<sub>2</sub> are simultaneously nitrogen atoms,
  - m is zero, and
  - E is chosen from E<sub>1</sub>, E<sub>2</sub>, and E<sub>7</sub>,

then said at least one thickening polymer is not chosen from hydroxyalkylcelluloses and carboxyalkylcelluloses.

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FINNEGAN, HENDERSON,
FARABOW, GARRETT,
8 DUNNER, L. L. P.
1300 I STREET, N. W.
WASHINGTON, DC 20005

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